

greater value to plant pathologists are the voluminous citations and bibliographies, together with the abundant illustrations, which include at least one for each genus of importance in the United States.

With the present vigorous prosecution of the study of plant diseases, it is obviously inevitable that a book of this nature should be out of date in some subjects the moment it leaves the hand of the printer. But this hardly excuses the utter disregard in a few places of researches of a number of years' standing, such as those on *Monascus*, and those on *Puccinia graminis* by Pritchard. It is, further, very unfortunate that poor proof-reading should mar the text in other places, such, for instance, as on p. 80, where the past tense is used instead of the present; on p. 112, "Bot. Gaz." for bot. Ges.; on p. 142, "conidial" instead of conical; on p. 143, "unknown on," apparently for known only on; on p. 391, "Key to species," instead of Key to assignment of species. On p. 366 is shown a rare instance of poor selection of illustration. Each cell of the teleutospore should obviously have but one basidium. A few of the illustrations might be made more effective if labelled more clearly; such, for example, as figs. 77, 100, 173, 174, 249, 383 and 662.

These defects fortunately detract but little from the great value and usefulness of the book, and there can be no doubt of its hearty welcome by plant pathologists.

E. W. OLIVE

**Harper's Report on Forests of Alabama\***

This is an exceptionally valuable report since it not only contains a vast amount of information about the forests of Alabama but has it classified and arranged according to geographical divisions of the state. This method has very decided advantages over general descriptions, though it requires an extensive and detailed knowledge of local conditions to be followed satisfactorily.

\* Harper, Roland M. Economic Botany of Alabama. Part I: Geographical Report, Including Descriptions of the Natural Divisions of the State, their Forests and Forest Industries, with Quantitative Analyses and Statistical Tables, Monograph 8, Geological Survey of Alabama, University, Alabama. June, 1913. Pp. 228; map and 63 half-tones.

In this report fifteen main divisions are recognized and some of them are subdivided into two or three. The divisions fall naturally into two classes, namely, the hill country or mineral region covering about two fifths of the state, and the coastal plain region. The latter is poor in minerals, water power, and mountain scenery, but rich in agricultural and timber resources. The line between them is called the "fall line," because most of the rivers which cross it have falls there.

The regions comprising the hill country are: (1) Tennessee valley; (2) coal region, northern and southern portions; (3) Coosa Valley; (4) Blue Ridge; (5) Piedmont. Those comprising the coastal plain group are: (6) central pine belt; (7) black belt; (8) Chunnennuggee Ridge; (9) post oak flatwoods; (10) southern red hills; (11) lime hills; (12) limesink region; (13) southwestern pine hills; (14) Mobile delta; (15) coast strip.

In describing each geographical division the same general plan is followed, though the amount of space devoted to each varies with the character of the country. The main headings are: Location, area, and external relations; references to previous literature; geology and soils; topography and hydrography; climate; forest types; fire; list of trees (with relative abundance and habitat of each); economic aspects, such as density of population, relative area of forests and clearings, status of stock laws, changes in relative abundance of certain species, principal forest products and wood-using industries. The location and boundaries of the different divisions and subdivisions are shown on a map. The text is supplemented by sixty-three half-tone illustrations from original photographs. An excellent bibliography of Alabama geography is included.

The author has decided views concerning the effect of fires on longleaf pine, and, as they are somewhat at variance with ideas held by foresters generally (based on experience with other types of forest), it may prove of interest to quote him. Among other things he says:

"In general the effect of fire in a forest is to keep down underbrush and trees with thin bark or low branches, and thus favor the growth of trees with thick bark and clear trunks, such as

most of the pines. It also returns quickly to the soil the potash and other mineral substances accumulated in fallen leaves, but drives off the inorganic matter which would otherwise make the soil more nitrogenous. It may destroy some insects which would otherwise injure the trees. . . . (It) does very little harm to the longleaf pine after that reaches the age of four or five years.

"It can be safely asserted that there is not and never has been a longleaf pine forest . . . which did not show evidences of fire, such as charred bark near the bases of the trees; and furthermore, that if it were possible to prevent forest fires absolutely the longleaf pine—our most useful tree—would soon become extinct. For where the herbage has not been burned most of the pine seeds lodge in the grass and fail to germinate, and if the oaks and other hardwoods were allowed to grow densely they would prevent the growth of the pine, which cannot stand much shade, especially when young.

"At the present time most of the fires in the pine woods are set purposely, to burn off the dead grass and improve the grazing. This practice has been repeatedly denounced by persons who have spent most of their lives outside of longleaf pine regions, but really the only just criticism of it that can be made is that it is done too often."

There are two other parts of this report contemplated: "Part II, a catalogue of the trees and shrubs, with their distribution and economic properties; Part III, the medicinal plants, the weeds and useful or noxious plants not included in the preceding parts."

SAMUEL J. RECORD

YALE FOREST SCHOOL

## PROCEEDINGS OF THE CLUB

DECEMBER 9, 1913

The first regular meeting for the month of December was held on the ninth at the Museum of Natural History at 8:15 P.M. President Burgess presided. Sixteen persons were present. The minutes of November 26 were read and approved.

The announced program for the evening was an illustrated